DIRECT TESTIMONY
OF
CAROLINA POWER & LIGHT COMPANY WITNESS
J. DAVID SMITH

SCPSC DOCKET NO. 94-637-E

Q. What is your name and where are you employed?

A: My name is J. David Smith and I work for Carolina Power & Light Company at 1601 West Lucas Street in Florence, South Carolina.

Q. What is your educational background?

A: I am a 1965 graduate of North Carolina State University. I was graduated with a Bachelor of Science Degree in Agricultural Engineering.

Q: What is your experience and current position with CP&L?

A: I am the Division Engineering Supervisor for CP&L's Southern Division, Customer and Operating Services Group which is responsible for the Division's long range distribution facilities plan, and the integration of the Division's distribution facilities plan into an overall Customer and Operating Services Group plan. I have held various positions in the Customer and Operating Services Group for over 26 years. I was the Sumter District Customer Service Manager from 1973 through 1987. From 1987 through 1989 I was the Southern Division Technical Manager and I have been in my current position since 1989.

Q: Why is it necessary for CP&L to build the major utility facility described in Ms. Brickhouse's testimony?

A: The Cheraw service area is served by two substations. There is a 115 kV substation located on the east side of the Pee Dee River, which I will refer to as the East Substation, and a 230 kV substation on the west side of the Pee Dee River which is

located somewhat southwest of Cheraw, which I will refer to as the West Substation. The East Substation serves the industrial load on the east side of the river, the small community of Wallace, the City of Cheraw and a large and growing industrial load on the west side of the Pee Dee River. In fact, more than half of this substation is devoted to serving load on the west side of the river. Power from the East Substation is delivered to the west side of the river using three "feeders." Feeder lines are classified as distribution lines which are smaller and less reliable than transmission facilities and experience greater losses than transmission lines. That means the greater the length of the feeder line the more electricity is lost during distribution. The load on the west side of the Pee Dee River served by these lines is approximately 2.6 miles from the East Substation. The West Substation primarily serves the south side of Cheraw and load that is located along highway 9 west going towards Chesterfield. It is almost two miles from the West Substation to the load currently served by the East Substation on the west side of the river.

There are four factors that are forcing CP&L to take action to address service reliability to the area served by the East Substation on the west side of the Pee Dee River. These factors are: 1) due to certain problems CP&L has experienced with transformers similar to those located in the East Substation, CP&L must either rebuild or replace these transformers; 2) due to the length of the feeders used to serve load on the west side of the river, the electricity losses associated with these lines is great and will increase as load growth continues in this area; 3) the loss of one of these feeders will jeopardize continuity of service to the customers in this area; and 4) the area in question is heavily industrialized and experiencing solid growth, as this

growth continues CP&L will have to take action to upgrade the facilities used to serve this area.

Q: Please explain all of the alternative methods studied by CP&L to determine the most appropriate solution to the problems you just described.

A: The first alternative was to rebuild all four of the 16.67 MVA transformers in the East Substation and to continue using this substation to serve the future load growth on the west side of the Pee Dee River. This alternative would not address the line losses I discussed earlier and will not materially improve the reliability of service in this area.

The second alternative was to reduce the amount of load on the west side of the river served out of the East Substation and use the West Substation to serve more of this load. While the West Substation is ideally located to serve load growth on Highway 9 west towards Chesterfield, it is not well suited to serve the industrial loads that are currently served by the East Substation or load growth in this area because it is over two miles from the load in question. To serve these customers out of the West Substation, additional feeder lines would have to be constructed and, therefore, significant line losses will occur and service reliability will not be improved.

The third alternative, which is the alternative we are recommending is to build a 230 kV substation on the west side of the Pee Dee River in close proximity to the majority of the load that is currently served by the East Substation in this area. A 230 kV transmission line would be built from the existing Reid Park 230 kV transmission line to the new substation. As a result, these customers and any future load growth in this area would in essence, be served at a transmission quality level thus minimizing line losses and greatly enhancing service reliability. These line loss

reductions will produce savings of over $44,000 a year. Once this substation is complete, CP&L would reduce the amount of load served by the East Substation which would allow CP&L to replace the existing transformers in the substation with an inventoried transformer that was taken out of service from the Marion Bypass substation. The East Substation can then be dedicated to serving the load on the east side of the Pee Dee River, especially Delta Finishing. The transformers used at the new substation will be transformers that were taken out of service at the Lake City 230 kV substation during the summer of 1994. As a result, no new transformers will have to be purchased. In summary, this alternative increases reliability of service, reduces line losses, allows CP&L to use existing inventoried transformers in both the East Substation and in the new proposed substation and correctly matches the substations with the load centers they are intended to serve. It also will allow CP&L to reliably serve future load growth in this area and support economic development.

Q: Will the proposed facility serve the interest of system economy and reliability?

A: Yes, for the reasons described above, the proposed solution is both the most economic and will produce the greatest service reliability.

Q: Does the public convenience and necessity require the construction of this facility?

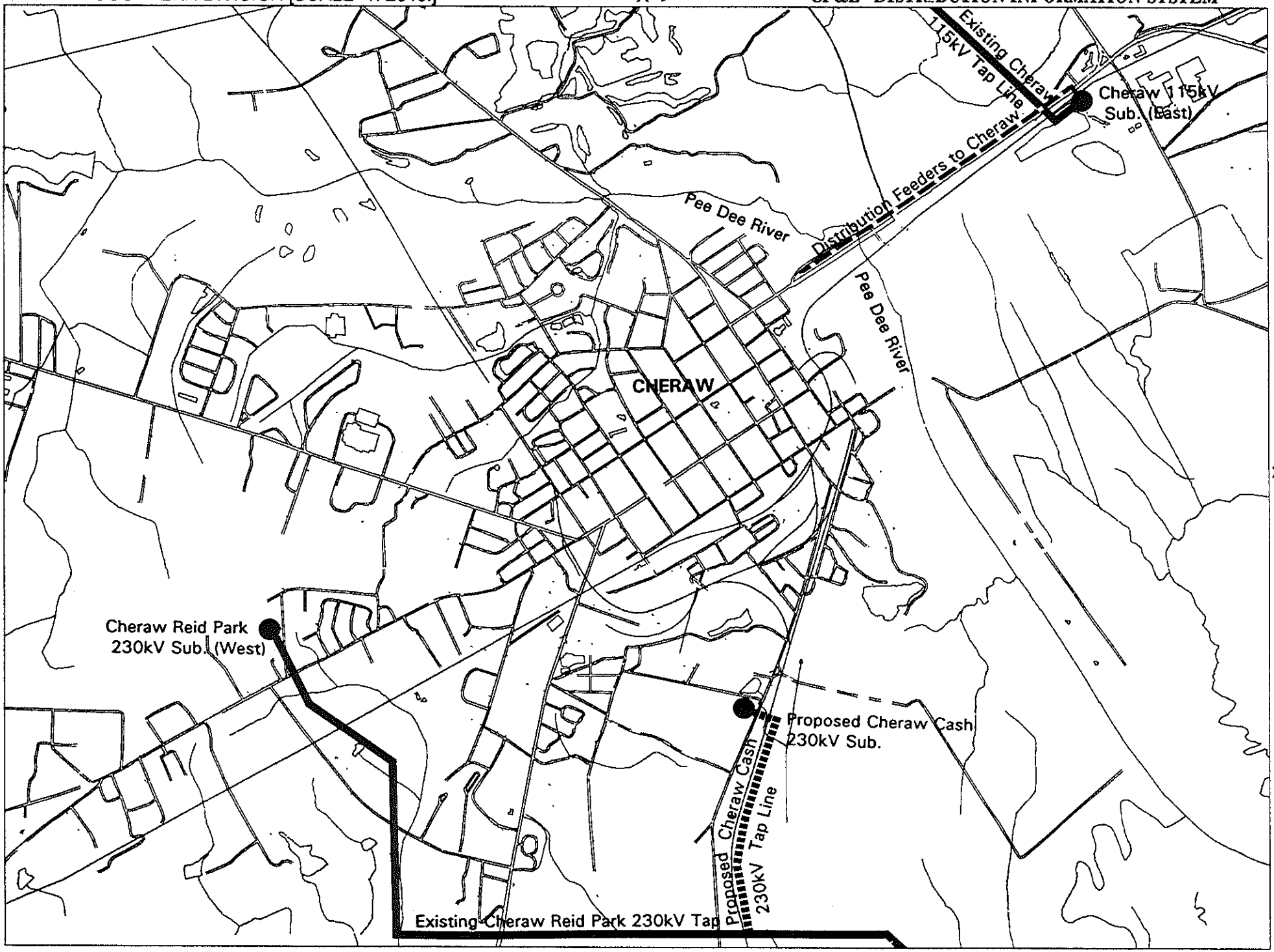
A: Yes, in the absence of this facility CP&L will experience increasing line losses and customers will experience less and less service reliability.

Q: Have you prepared an exhibit showing the location of the East Substation, West Substation and the proposed new substation and transmission line?

A: Yes, I have and it is attached to my testimony and identified as Smith Exhibit 1.

Q: Does this conclude your testimony?

A: Yes.


CHERAW SOUTHERN DIVISION [SCALE=1: 2640.]
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CP&L - DISTRIBUTION INFORMATION SYSTEM
Existing Cheraw 115kV Tap Line
Cheraw 115kV Sub. (East)
Distribution Feeders to Cheraw
Pee Dee River
Pee Dee River
CHERAW
Cheraw Reid Park 230kV Sub. (West)
Proposed Cheraw Cash 230kV Sub.
Proposed Cheraw Cash 230kV Tap Line
Existing Cheraw Reid Park 230kV Tap
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SMITH EXHIBIT 1